



Dear Colleagues,

The International Hotel & Restaurant Association is very pleased to present to its members the details of *Traditional Hospitality*. This is a programme developed in collaboration with our members in several countries.

It was created to help accommodate the varying smoking preferences of our guests without creating separate smoking and non-smoking areas.

The programme raises the awareness of the importance of ventilation and the value to our business of providing all customers, whether smoking or not, with a comfortable and congenial environment in which air quality is enhanced.

Kenneth Hine  
*Director General and Chief Executive Officer*  
*International Hotel & Restaurant Association*

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# Good Air • Good Business



*Traditional Hospitality*  
means enhanced  
comfort for all, with  
customers enjoying  
themselves together  
without separating  
into designated smoking  
and non-smoking  
areas.

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*Traditional Hospitality*

Enhanced Comfort for All –  
Smoking Allowed

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## *Traditional Hospitality*

Some of your customers prefer to smoke in a social setting...and others don't. But in your place they come together in the traditional sense of hospitality—to have a good time—and they don't socialise based on whether or not they smoke. Yet with increasing awareness of air quality, customers may expect to be able to socialise together in a comfortable atmosphere, regardless of whether or not some customers are smoking.\* That is why the International Hotel & Restaurant Association presents the *Traditional Hospitality* programme for its members.

The International Hotel & Restaurant Association takes no position on smoking itself, nor is this programme intended to address the health effects that have been attributed to tobacco smoke in the air. This programme seeks to provide a basic understanding of the principles of ventilation. When applied knowledgeably, these principles form the basis for a comfortable, congenial environment in which air quality is enhanced and customers' different preferences regarding smoking can be accommodated.

In implementing the *Traditional Hospitality* programme, it is recommended that you seek the advice of a technical professional to develop a plan and ventilation strategy appropriate for your business. In addition, check that whichever plan or strategy you consider is in compliance with local laws and regulations governing smoking in your establishment.

\* Guests in larger establishments, particularly in dining areas, may prefer separate smoking and non-smoking areas. For them, *Courtesy of Choice* may be the more appropriate guest service. *Courtesy of Choice* is an IH&RA programme that helps hoteliers and restaurateurs accommodate guests' preferences by providing a choice of smoking and non-smoking areas.



The objectives of *Traditional Hospitality* harmonize customer preferences and the business of hospitality:

*To preserve the traditions of hospitality through the use of good ventilation strategies and operation.*

*To protect our business by retaining the right to serve all our customers as we see best in the spirit of hospitality and courtesy—recognising that there are different and firmly held views on smoking.*

*To establish a framework of self-regulation that can provide a basis for reasonable legislation in communities where legislation is being considered, or possibly provide hospitality management with the tools to comply with legislation where it already exists.*

*To seize the opportunity to offer customers an additional valued service: traditional hospitality where customers socialise together in a well-ventilated, comfortable atmosphere, regardless of whether or not there is smoking.*



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## Ventilation—Your Hidden Asset

*Do you get complaints about stuffy or stale air? Is there an accumulation of tobacco smoke?* If yes, that usually means ventilation is inadequate—that is, not enough air is being supplied to or removed from the space for the number of occupants in your establishment.

### *What Is the Role of Ventilation?*

- Every building which people occupy needs to be ventilated. Some may be ventilated by natural processes, some may be aided by simple mechanical means such as fans, and others may have a sophisticated, fully mechanical system.
- Inadequate ventilation results in poor air quality.
- Optimising ventilation optimises customer comfort.
- Ventilation can be supplemented, though not replaced, by air-cleaning technologies.
- Good ventilation makes good business sense.





*First, understand what ventilation you have and make the most of it...*

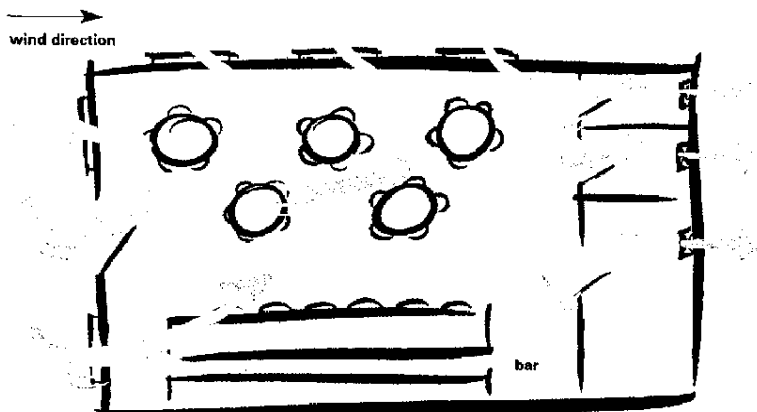
then, consider what changes may make it better.

- Identify any openings to the outdoors, such as windows, vents, grilles, chimneys or other openings.
- Do you have any exhaust fans, air cleaners, or heating, ventilating and air-conditioning systems? If yes, turn them on. Do they work efficiently? Check with a professional if there is any doubt.
- When was this equipment last serviced? A routine maintenance schedule is one of the most important things you can do to get the most out of your investment.



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# Getting More Out of Your Natural Ventilation



## Floor Plan Example – Natural Ventilation

This floor plan shows how the air moves into and out of the structure through windows, doors and vents by the forces of wind on outside walls and thermal draught. Usually, exhaust fans are required in kitchens and toilets.

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## A Natural System

All buildings have some sort of ventilation system. The most basic system operates as "natural ventilation", in which air moves into and out of the structure through windows, doors, chimneys and other openings, driven by pressure of wind and thermal draught. Cold air is denser and thus heavier than warm air, so gravity pulls it downwards, thereby displacing warmer, lighter air upwards.

- Air intakes should ideally be located at a low level.
- Exhausts should be high in walls or in the ceiling to permit warm, stale air to leave the space.
- Air should be able to move freely into and out of naturally ventilated buildings at all times. Make sure openings to the outdoors are not blocked so that air can flow freely through them.

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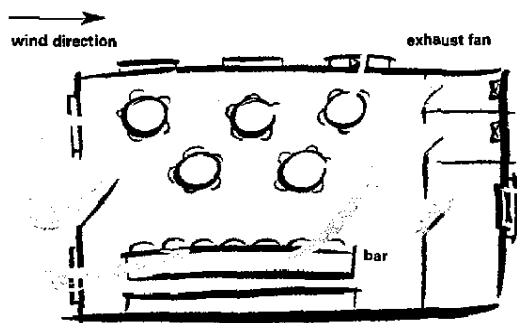
## CHECKLIST

- Check that all vents, grilles and chimneys are cleaned and free from obstructions.
- Open windows and doors whenever weather and temperatures permit.
- Avoid blocking undercuts on interior doors, openings between rooms, and transfer grilles, since these routes are designed to facilitate air circulation.
- Ensure that passive ventilator grilles in walls of toilet areas are functioning. Low-cost exhaust fans can dramatically improve ventilation in such areas.
- Ensure that the exhaust hoods over kitchen ranges and filters are cleaned and that fans are serviced regularly.
- When installing fans, avoid locating exhausts close to existing air supply.
- Check with a local contractor that fan locations do not contravene local ordinances regarding fire safety, building regulations, etc.



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# How Simple Technology Can Boost Natural Ventilation



## Floor Plan Example - Mechanical Ventilation

This floor plan shows airflow from opened windows to exhaust fans located in outside wall and in kitchen and toilets. Exhaust fans reduce air pressure in spaces, thereby drawing in more outside air through other openings.

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Many buildings supplement natural ventilation with simple mechanical means.

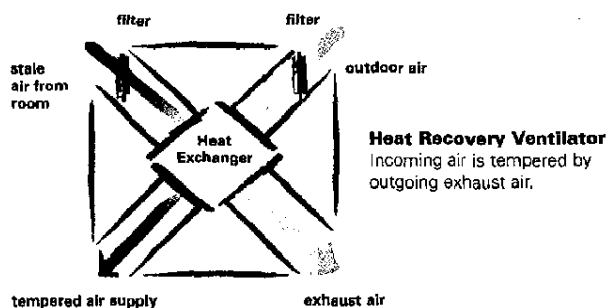
## Exhaust Fans

Exhaust fans not only expel pollutants, but also cause more outside ventilation air to be drawn into the space, thereby diluting and refreshing the used air. These fans come in a variety of sizes with various technical specifications and, by increasing airflow, can dramatically improve overall ventilation.

## Heat Recovery Ventilators (HRV)/Air-to-Air Exchangers

Typically, these units use two fans enclosed in a single housing. One fan expels stale air from interior spaces, and the other brings in outdoor air. Both airstreams pass through a heat exchanger which transfers heat from one airstream to the other. Using an HRV system in cold weather means that the warm, stale air being expelled preheats the incoming cold air. In hot weather, the cooler stale air being expelled cools the incoming outside air.

HRV systems are quiet, energy-efficient, inexpensive to operate, and come in a variety of sizes.



**Heat Recovery Ventilator**  
Incoming air is tempered by outgoing exhaust air.

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### Controls Can Make Your Operation Easier

Control sensors, based on occupancy levels, can be added to almost any mechanical ventilation device which will vary the amount of air supply and exhaust, thereby making the system more energy efficient. These sensors will also make the work of the staff easier since they will not have to stop working in order to turn on various components of the ventilation system. From simple to sophisticated, there are controls to suit most ventilation strategies.

### Humidity

Many buildings in humid areas have problems with molds, mildew and fungal contamination. Reducing the indoor relative humidity is the most effective way to reduce these problems. An added bonus is that lowering the humidity in a warm climate increases occupant comfort.

There are several options:

- Freestanding dehumidifier
- Air conditioning
- Desiccant technology

Check with your local supplier to find which product would best support your ventilation strategy.



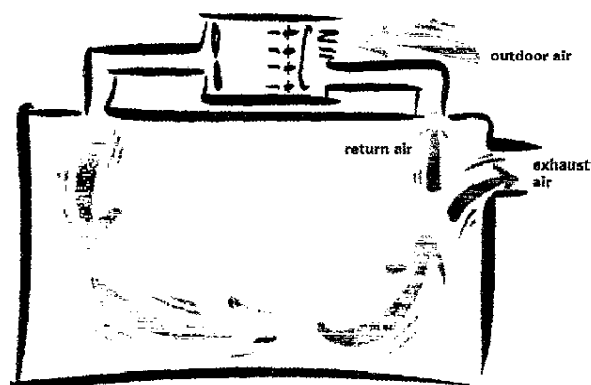
## How to Make the Most of an HVAC System



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### HVAC Systems

Heating, ventilating, and air-conditioning (HVAC) systems can provide optimum thermal comfort and should be designed to provide at least some outside air and to remove stale, polluted air. HVAC systems can be designed also to control humidity. Although most HVAC systems are intended to recirculate some of the room air and provide a fresh supply of outside ventilation air, they can do this only if the outside air intakes are open. In the event that your HVAC unit has no dedicated source of outdoor air, it is essential that you allow air into and out of the space by some other means.



#### Typical HVAC Design with Recirculation

HVAC is a form of mechanical ventilation that includes heating and cooling capacity of outside and return air. Airflows in the space follow basic principles of air movement: they move from higher- to lower-pressure areas.

## CHECKLIST

- Make sure the outside air intakes of your HVAC system are at least partially open at all times, even in extremes of weather.
- Check air filters for quality and fit; gaps permit air to bypass the filters and render them useless.
- Check with your supplier or appliance dealer to ensure that high-quality and efficient filters are being used. Replace filters on a regular basis. Keep the filter chamber clean.
- Vacuum-clean all supply and exhaust grilles in walls and ceilings on a regular basis.
- Make sure the condensation from your unit's cooling coils drains away properly and that drip trays and drains do not become clogged.
- Keep areas around air-handling units clear; do not let debris or storage items block airflow from the grilles.
- Designate someone who will be responsible for these tasks and who understands their importance.
- Review this checklist with a technical professional to make the most of your current HVAC system.



## A Good Combination: Ventilation and Air Cleaning

*Supplementary air-cleaning units may be a desirable component of your ventilation strategy, particularly when your place becomes crowded and there is smoking.*

### *What is an air cleaner?*

An air cleaner is basically a box with a fan that draws a volume of air across one or more types of cleaning filters. One type of filter removes particles (like dust and tobacco smoke), another type removes gases (like odours from cooking or smoking). Some cleaners, using a combination of filters, remove both particles and gases. The cleaned air is then blown back into the room.

There are mainly two types of particle filters used in air cleaners:

- Media filters, which work much as a sieve does, trap dust particles as the air passes through them.
- Electronic filters use electricity to charge the airborne particles which then are attracted to collection plates in much the same way iron filings are attracted to a magnet.

Gases and vapours are removed by a process called adsorption:

- Adsorption filters contain a bed of charcoal or other materials that have a huge capacity for trapping odour-causing gases and vapours.

All of these units are affordable and usually worthwhile investments. Costs will vary based upon a wide range of factors, including the size of your establishment and the number of customers you expect to occupy the space.

Regardless of the air cleaner you select, there are three key factors common to all air cleaners that must be kept in mind:

### **SIZE**

Commercial air cleaners have a capacity to clean a stated volume of air measured in cubic metres per hour ( $\text{m}^3/\text{h}$ ). Knowing the required volume of air to be cleaned will define the capacity or number of air cleaners necessary for optimum performance.

*How do you determine the volume of air that will need to be cleaned?*

To calculate the **effective volume**, multiply length x width x height of the space (ignore height over 3 metres, but ensure that cleaners are installed at, or just below, that 3-metre height).

*How many times per hour should the air pass through the air cleaner?*

Air-cleaner manufacturers suggest between 8 and 12 air changes per hour (**ACH**); therefore, a guideline ACH is 10.

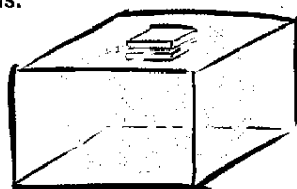
**Effective volume of room x ACH =  
Total capacity of air cleaning required**

## LOCATION

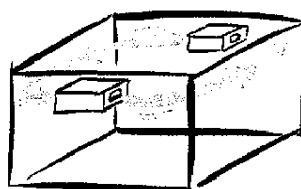
*Where should the supplementary air cleaners be located?*

That will depend on other ventilation strategies being used in the space and the specific design of the cleaning units. For example, some are designed to be mounted in the ceiling and to circulate air evenly in all four directions.

Coiling-mounted air cleaner



Other units are designed to be mounted on walls. In some cases it is better to have two smaller air cleaners than one large one. If these are wall-mounted units, ensure that they complement each other. As seen in the example below, each air cleaner blows the air in the same direction, thereby improving air circulation within the room.



Wall-mounted air cleaner

All of these units should have an airflow that complements existing ventilation, rather than fighting it.

## MAINTENANCE

Air cleaners are effective only when they are well maintained. Follow the manufacturer's recommendations, or get a service contract that provides for routine maintenance.

## Summary – Next Steps

- Understand first what ventilation you have and, working with a technical professional, make the most of it—then consider what modifications may be appropriate.
- Recognise that ventilation is essential for good air quality. Regardless of the system you have and the ventilation strategy you select, *air must be permitted to enter and leave a space.*
- To increase ventilation in extreme weather conditions, consider the use of energy-saving heat-recovery ventilators (HRV).
- Consider supplementing your ventilation with quality air cleaners that are sized correctly for your space, installed properly and serviced regularly.
- Install control sensors to operate your mechanical ventilation components automatically.
- Introduce and rigidly adhere to a regular inspection, for instance once a month, and follow a checklist on all ventilation and air-cleaning equipment.





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## Keeping with Tradition

The concept of *Traditional Hospitality* suggests that customers come together in your establishment to have a good time in a well-ventilated and comfortable atmosphere and don't socialise based on whether or not they smoke.

Displaying the programme's symbol denotes an awareness of the role of ventilation and a commitment by the management of the establishment to use ventilation effectively to enhance customer comfort and satisfaction.

*In small establishments...with natural ventilation or sophisticated mechanical systems...good air quality is simply good business.*





## *Traditional Hospitality*

Enhanced Comfort for All –  
Smoking Allowed

While the enclosed examples are not intended to be solutions for every establishment, they can be regarded as practical guides to understanding the issues involved, the technologies and strategies employed, and the benefits achieved through the effective use of ventilation.

There are numerous products and services available to facilitate the engineering and ventilation technology described in this brochure. The IH&RA gratefully acknowledges Philip Morris Management Corp. for the development of these materials.

Technical information has been provided by members of REHVA, a European federation of heating, ventilation and air-conditioning associations.

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# Good Results

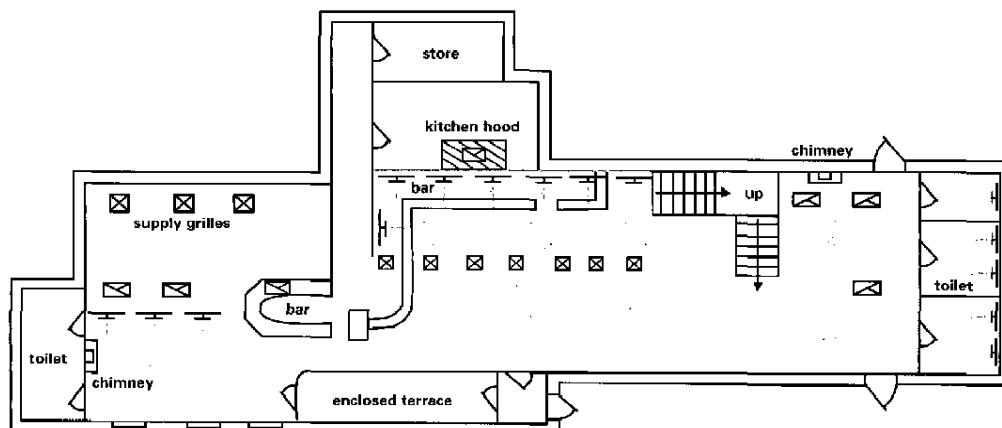
## Wrights Anglers Rest – Dublin, Ireland





- Two floors of a historic building
- Area: 180 m<sup>2</sup>
- No significant ventilation system
- Bar area on ground floor
- As part of a major refurbishment, owner decided to install suitable mechanical ventilation system

*"Traditional Hospitality is the way forward. Cleaner air is essential in bars and pubs, but banning smoking or segregation is just not practical—it causes discrimination and could drive away our customers."*

– Michael Wright (Jnr.), Proprietor



### Actions

- Designed and installed new and efficient system of ventilation.
- Extensive ducted supply  and extract  systems installed, to serve various areas of the establishment.
- Three individual ducted extract systems, each powered by separate fan, serve ground floor area.
- Ducted extract systems have separate system of control, allowing varying fan speeds and giving flexibility in operation.
- New gas-fired Air Handling Unit installed on roof at rear, with three separate off-takes, each serving discrete area of building. Single supply duct on ground floor further divided with branched off-take serving two ground floor bars.

Installed by:  
**Air Tech**

Products:  
**RVR Ltd. Energy Technology**

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# Good Results

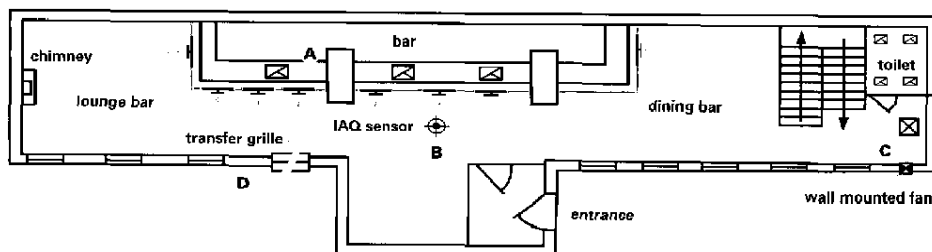
## The Bloody Stream – Dublin, Ireland



- Housed within a part of the railway station at Howth
- Two storey stone built establishment
- Area: 100 m<sup>2</sup>
- Bar on ground floor
- Mechanically assisted natural ventilation

*"It's great, because downstairs in our crowded bar we use the ventilation improvements like the sensor which kicks in when it's needed. Upstairs we have Courtesy of Choice with separate smoking and non-smoking areas which also works well."*

– Frank O'Meara, Pub Manager  
and Matt Englishby,  
Assistant Manager



### Actions

- Installed additional extract grilles **A** at high level over bar.
- Indoor Air Quality sensor **B** installed to automatically control extract system.
- Unblocked supply grille **C** in corridor and redirected flow to prevent draughts.
- Installed transfer grille **D** to create supply of air and equalise air movement.

Installed by:  
Air Tech  
J.R. Healy Electrical

Products:  
Vent-Axia IAQ sensor

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# Good Results

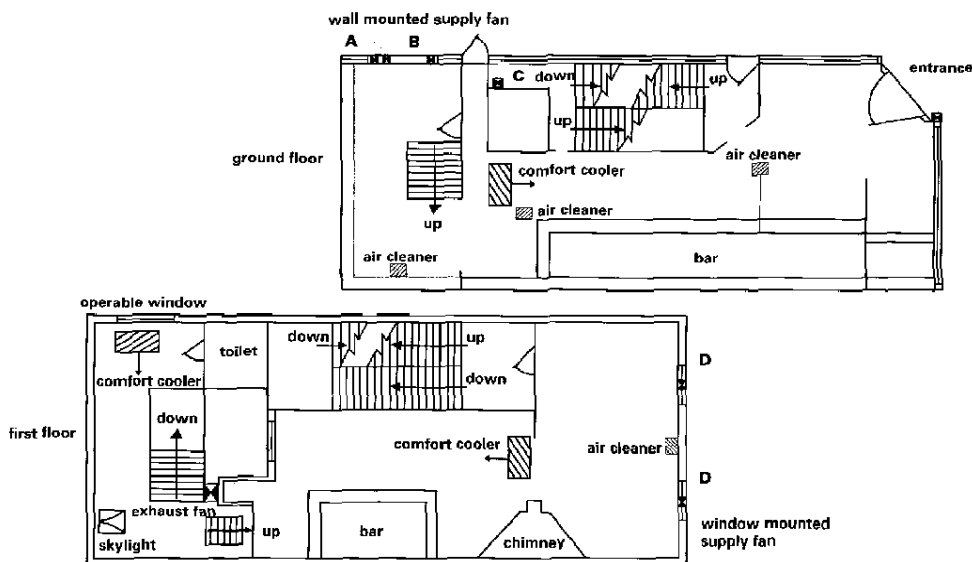
## John Kehoe's – Dublin, Ireland

- Two floors of a traditional heritage building
- Area: 100 m<sup>2</sup>
- Natural ventilation supplemented with perimeter fans
- Existing air cleaners well maintained
- Five working exhaust fans and one in need of repair



*"As a heritage pub on the tourist trail we strive to keep the Victorian feel, but we know we've got to adapt for modern customers' needs. This programme lets us do it."*

— Eddie Fitzgerald, Manager



### Actions

- Existing extract fans supplemented with additional fans to improve overall ventilation.
- Two of the three window fans **A** replaced to provide suitable extract. Remaining original fan **B** now operates as a supply fan.
- Small fan **C** to the ground floor ante-room repaired.
- Two new window fans **D** installed on first floor.
- Continue to service air cleaners at regular intervals by an independent service company.

Serviced by:  
C & E Supplies

Products:  
Vortice fans

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# Good Results

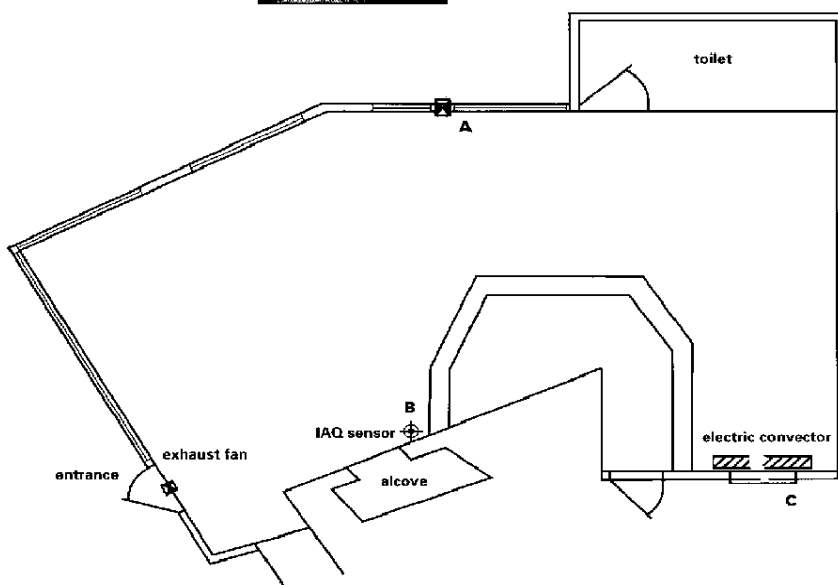
## Lamb Doyles – Dublin, Ireland



- Bar on ground floor of a modern building
- Glazed facades to front
- Area: 30 m<sup>2</sup>
- Existing supply and extract fans

*"We are a typical Irish bar—plenty of good will and craic. But we're in a competitive business. There's no question, this has been a dramatic improvement. We've noticed a repatriation of non-smokers to our bar."*

— Niall Morton and  
David Morton, Proprietors



### Actions

- Replaced existing fan with larger 300 mm fan 'A' to increase extract within bar area.
- Indoor Air Quality sensor 'B' installed at high level near bar to control fan 'A' operation.
- Low-level transfer air grille 'C' installed to improve supply of make-up air. Electric heater relocated in front of the grille to minimise cold draughts.

Installed by:  
J.R. Healy Electrical

Products:  
Vent-Axia IAQ sensor  
Vent-Axia 300mm fan

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# Good Results

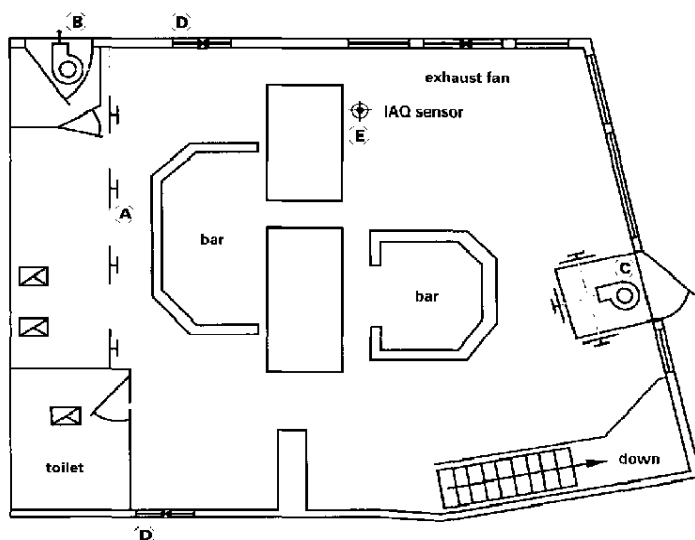
## The Old Stand – Dublin, Ireland



- Ground floor of a traditional building
- Area: 110 m<sup>2</sup>
- Simple mechanical supply and extract system supplemented by window fans
- Extract system in need of repair

*"Improvements like the sensor mean we don't have to rely on our staff noticing poor atmosphere. We have also improved our maintenance because we've discovered that the air wasn't getting through because of blocked ducts. Food is vital for our trade and our guests are enjoying it more."*

– Michel Doran and  
Colclough Doran, Proprietors



### Actions

- Existing ventilation system cleaned and serviced.
- Extract grilles (A) were cleaned and exhaust fan (B) was restored to full use.
- Speed of supply fan (C) reduced to optimise effectiveness.
- Two window fans (D) in rear bar set to operate in a complementary manner to provide good air movement.
- Indoor Air Quality sensor (E) installed to automatically control window extract fans; used in conjunction with fan speed controllers for flexible operation of the system.



Installed by:  
J.R. Healy Electrical

Serviced by:  
Air-Care

Products:  
Vent-Axia IAQ sensor

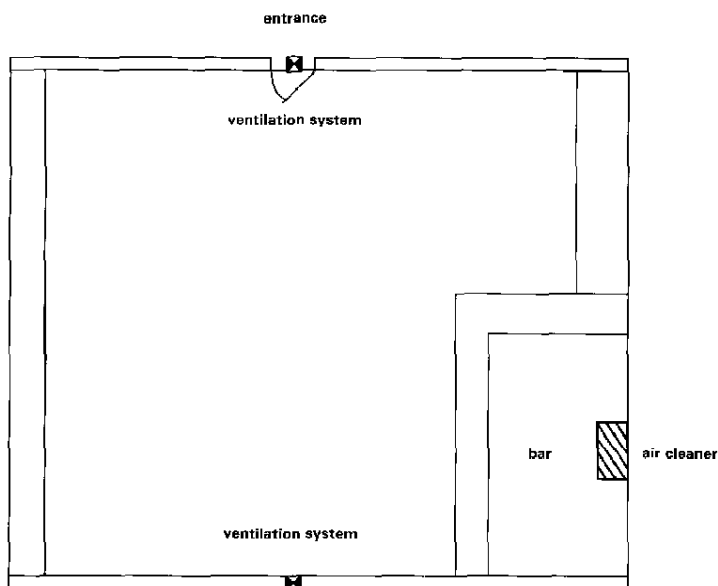
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# Good Results

## Het Oud Arsenaal – Antwerp, Belgium

- Café on ground floor of a traditional building
- Area: 47 m<sup>2</sup>
- Existing window ventilators and air cleaner



### Actions

- No ventilation improvements required

*"Quite a few of my customers smoke. Good air circulation is therefore very important. People tend to stay longer and consume more in a pleasant atmosphere. So good air quality also increases the turnover; reasons enough to join the Traditional Hospitality programme."*

– Stéphane Erauw, *Proprietor*



Installed by:  
CFMI

### Products:

- COSDEP TE 1400 air cleaner
- Xpelair



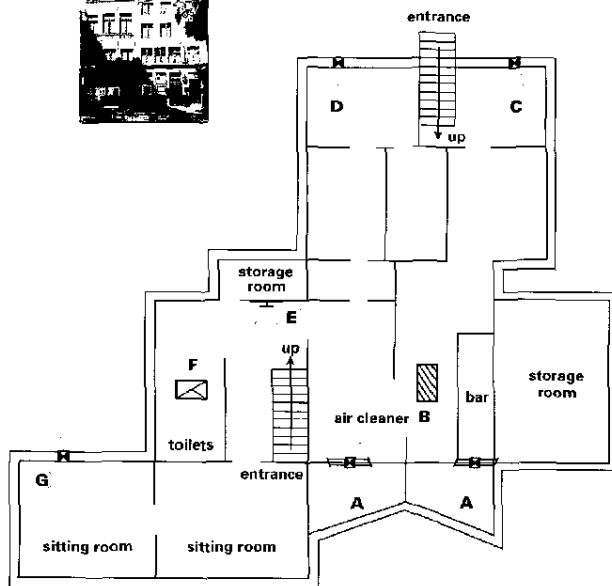
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# Good Results

## Pub – Bistro De Kleine Kous – Antwerp, Belgium



- Cellar and first two floors of a classic 14th century building located next to the cathedral in the center of Antwerp
- Area: 235 m<sup>2</sup>
- Two separate dining areas
- Restaurant and bar on ground floor, bar and bistro in cellar
- No existing ventilation



### Actions

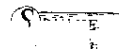
- Installed two 450 m<sup>3</sup>/h exhaust fans **A** in wall above bar
- Added air cleaner **B** in bar area
- Installed 1100 m<sup>3</sup>/h supply fan **C** and 400 m<sup>3</sup>/h exhaust fan **D**
- Provided ventilation system with heat from the beer chill system **E**
- Installed 150 m<sup>3</sup>/h exhaust fan **F** in toilet room
- Installed 1200 m<sup>3</sup>/h exhaust fan **G** in cellar

*"Ventilation experts made measurements and sent a report with suggestions and recommendations. The result is where previously I thought I would have to make serious investments, I found I was able to limit expenses thanks to this objective report. In short, Traditional Hospitality aims to provide an ideal price versus quality solution with optimum air treatment."*

– Luc Boelens, Proprietor



Installed by:



Products:

- Air treatment box by P. Lemmens Air Movement Company, serie UV MB PA



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# Good Results

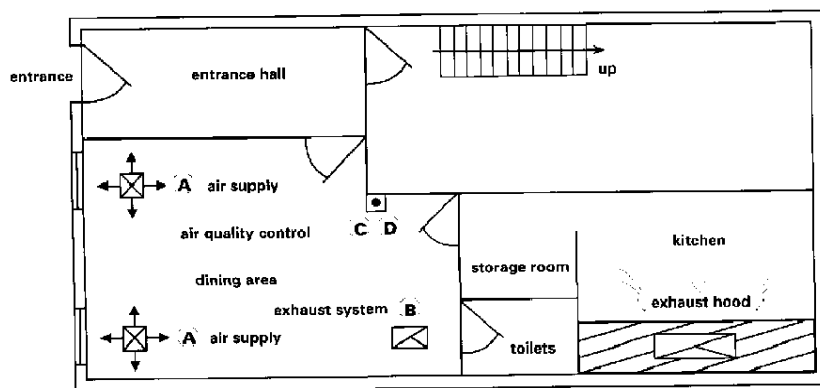
## Restaurant De Kerselaer – Antwerp, Belgium

- First floor of a traditional building
- Area: 78 m<sup>2</sup>
- Existing air handling unit
- Large existing exhaust hood in kitchen



*"De Kerselaer is a restaurant with a limited consumption area. Air quality was a problem from the start. That is why some time ago I invested in a good ventilation system. Then the system broke down. Ventilation experts chartered the problem and searched for solutions. My installation now works better than ever before and at minimal expenses thanks to the Traditional Hospitality programme."*

– Yves Michiels, Proprietor



### Actions

- Replaced air diffusers **A** to circulate air more evenly and reduce draught
- Installed 600 m<sup>3</sup>/h exhaust system **B**
- Repaired control panel **C** to allow fans to operate at correct speed
- Installed clock **D** in control panel to operate system during occupied times

Installed by:

**VERBO**

Product:

- ROCA CCS 70 condensing unit
- ROCA DFH 70 air cleaner

**ROCA**

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# Good Results

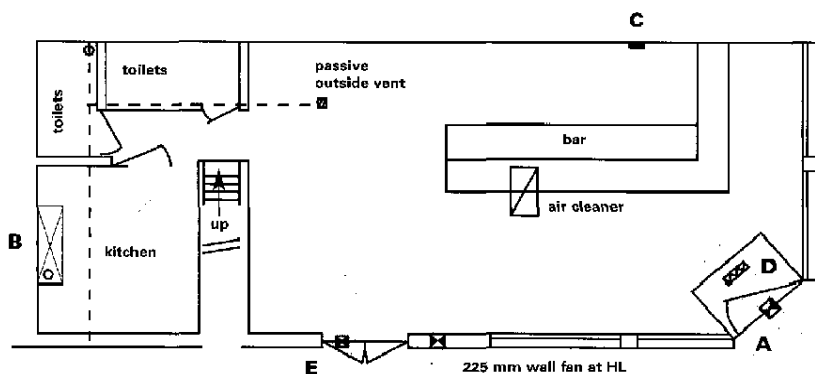
## Café De Oude Jan – Delft, The Netherlands

- Ground floor of traditional Dutch building
- Bar runs along wall, with kitchen at rear
- 300 mm fan on side wall
- Well-maintained air cleaner above bar
- Occupant capacity 50
- Natural ventilation



*"The atmosphere in my business was very stuffy, especially on crowded nights, we always had to open the door and the windows, which caused noise nuisance with the neighbors. So a supply and an extractor were installed and after a few days I noticed how excellent it was. Since we have this system it is indeed really ideal."*

—Leo Quak, Proprietor



### Actions

- Installed 300 mm two way fan **A** over front door used as extract in summer and supply in winter when the heat from beer chill system **D** can be utilised
- Kitchen extract hood **B** upgraded
- Added automatic controller **C** to operate new fans **A** **E**
- 225 mm two-way fan **E** installed over side door to run in the opposite mode to the new, main fan **A** and thereby provide a flow of air through cafe



Installed by:  
Ingenieursbureau Joost  
Naaktgeboren BV



### Products:

- Vent-Axia Ventilator TL12WW
- Vent-Axia Ventilator 9WW
- Vent-Axia Air Quality Sensor

**Vent-Axia**

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# Good Results

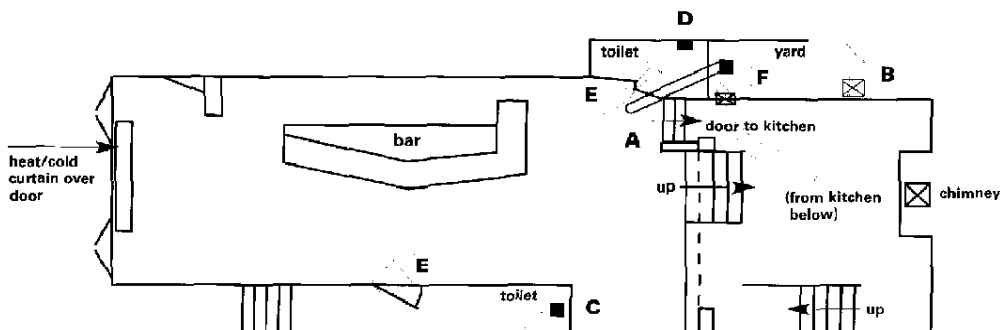
## Café Bar Le Duc – 's-Hertogenbosch, The Netherlands



- Four-storey, traditional building
- Bar on ground floor, kitchen under raised rear section
- 300 mm extract fan to side wall between bar and rear section
- Occupant capacity 100
- Natural ventilation

*"This investment has been very worthwhile, because you are investing for the future. If the customer feels comfortable, he will stay longer, he will consume more so profits go up."*

– Jan van Kollenburg, Proprietor



### Actions

The owner completed a major refurbishment of the establishment and at that time installed a full system of ventilation serving all areas including the ground floor bar, new first floor meeting room and the kitchen:

- Serviced existing 300 mm extract fan **F** by steps to rear section
- Installed 300 mm ducted extract to roof **A** which is also used as extract from meeting room above bar
- Installed dedicated kitchen extract system **B** to roof
- New extract fan **C** to gents toilet
- New extract fan **D** to ladies toilet
- Passive grilles **E** installed in the doors to ladies and gents toilets

Installed by:  
Jac Mulders electro bv

### Products:

- Lemmens D9-7-9 Ventilator
- ROvent WV16 Ventilator



**ROvent WV16**

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# Good Results

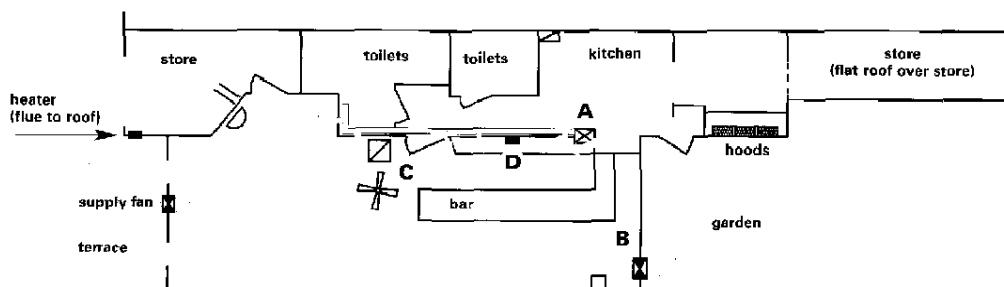
## Café Koper – Zandvoort, The Netherlands



- Ground floor of two-storey, traditional building
- Bar along one side at rear
- Occupant capacity approximately 30
- Natural ventilation

*"Good air quality is becoming evermore important to our customers and to our staff... It is just good business to provide it and it is surprising how easily a well ventilated and comfortable atmosphere can be achieved."*

*– Fred Paap, Proprietor  
Chairman of Bar Section,  
Koninklijk Horeca Nederland*



### Actions

- Air supply system **A** added with ducted outlets around bar (not HRV system)
- Installed 300 mm window extract fan **B** in rear area
- Air cleaner **C** removed
- Installed automatic control sensor **D** above bar to operate new air supply system

Installed by:  
B.V. Koudebureau IJskoud



### Products:

- Tadiran Airconditioners, Cosmos AN-60HR
- Vent-Axia Ventilator TL12WW
- Vent-Axia Air Quality Sensor

**Vent-Axia.**

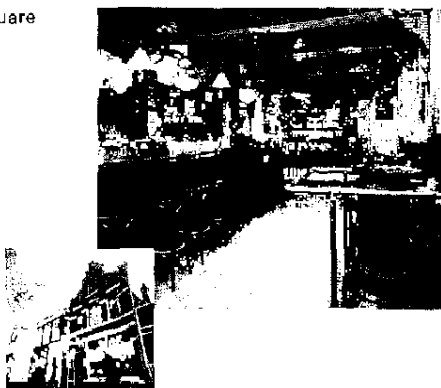
**TADIRAN**  
AIRCONDITIONERS

PM3006558758

# Good Results

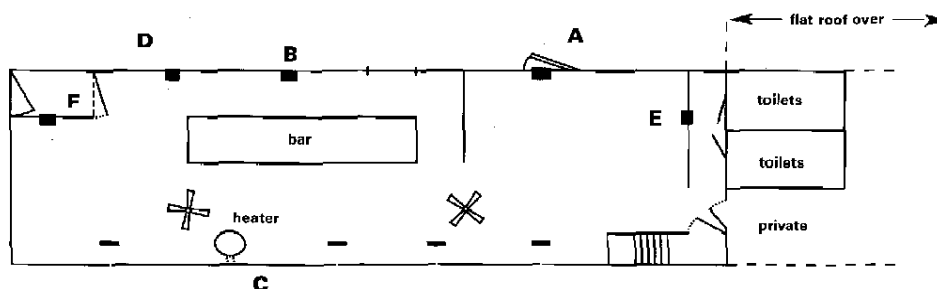
## Biercafé De Bonte Koe – Purmerend, The Netherlands

- Two-storey, traditional building on town square
- Bar along one side, kitchen in rear
- 300 mm extract fan at far end of room
- Occupant capacity 120
- Natural ventilation



*"Before the new installation the atmosphere was rather stuffy... It is much better now. The customers talk about it, they pay me compliments about the new exhaust system and about the clear and good atmosphere in De Bonte Koe as far as air – fresh air and air control (to use a nice word) – goes."*

– Hans Glandorf, Proprietor



### Actions

- 300 mm extract fan **A** installed over side door at end of bar
- Added a switch **B** behind the bar to operate new extract fan **A**
- Cleared original fan opening **D** to provide passive ventilation behind bar
- Cleared rear of existing fan **E** at far end of room to improve its effectiveness
- Installed supply fan **F** at side of main entrance to increase airflow throughout
- Floor supply grilles **C** will be installed along with new floor

Installed by:



Products:

- Xpelair FR22/30, Central Switch
- Xpelair Ventilator WX9



PM3006558759

# Good Results

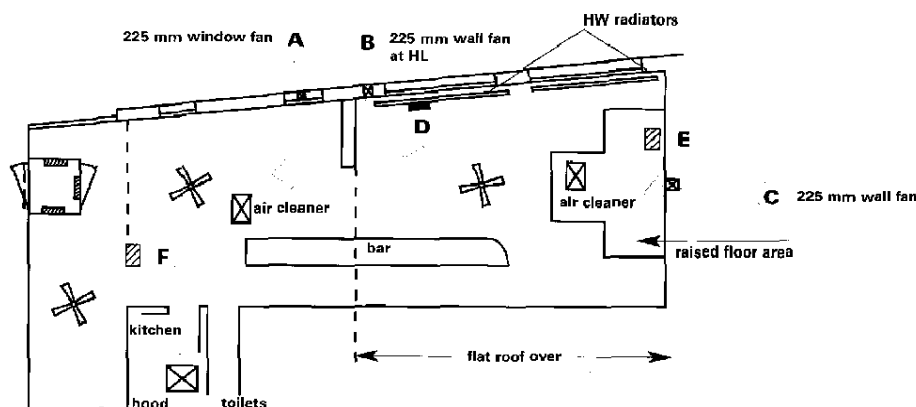
## Eetcafé De Poort – Utrecht, The Netherlands

- Two-storey, traditional building with cellar
- Main floor at road level consists of one large space, with sections at different levels
- Bar is opposite windows, along one side overlooking canal
- Air cleaners over bar and centrally located in rear room
- Rear part has raised stage for short concerts
- Occupant capacity 150
- Natural ventilation



*"I was surprised that we didn't have to change much, the costs were not high. An automatic control is a good idea. It is important that staff don't have to think about turning the equipment on, that it will go on by itself."*

— Inge de Haan, Proprietor



### Actions

- Used two existing 225 mm fans on canal side **A** and **B** in exhaust mode
- Repaired original fan through rear wall **C**
- Added automatic control sensor **D** at high level to operate all fans **A B** and **C**
- Added air chillers **E F** located at high level in rear and in the front

Installed by:

  
Botairco Technics International

### Products:

- Airconditioner Honeywell Coolmatic® VAF 030-903
- Air cleaner Honeywell Clairmatic® 1450H
- Xpelair Air Quality Sensor

 Xpelair

 Honeywell

PM3006558760



# Good Results

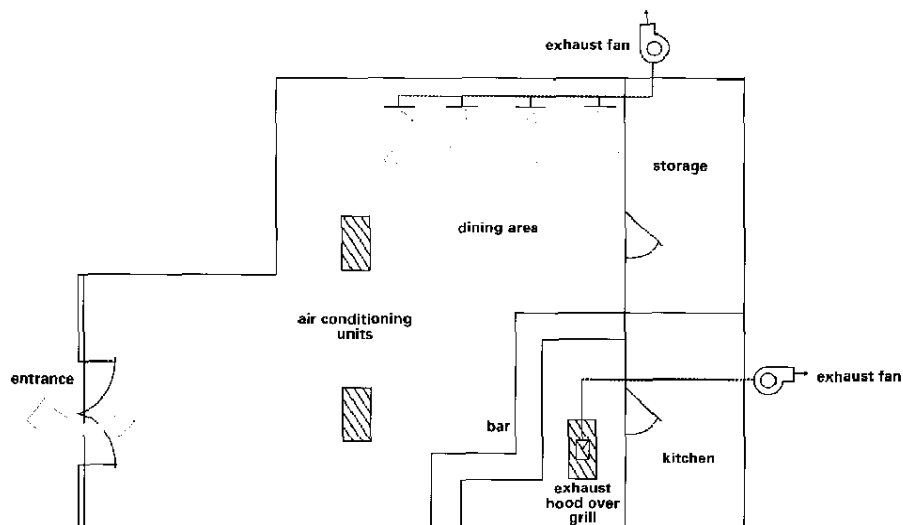
## Cervecería Fük— Bilbao, Spain

- First floor of a traditional building
- Area: 100 m<sup>2</sup>
- Two air conditioning units for supplemental cooling
- 5.000 m<sup>3</sup>/h kitchen exhaust
- 3.000 m<sup>3</sup>/h exhaust system



*"The air quality in our establishment is excellent. Customers feel more comfortable in an establishment that takes care of its ambient air. We have adhered to the programme, and I truly believe that it was right on the mark."*

— Anxetón Vicuña, Manager



### Actions

- Continuously operate ventilation system during business hours

Installed by:  
Clima Norte S.L.

### Product:

- Climatizador/Condensador  
HITACHI RCI 5A5

PM3006558761

# Good Results

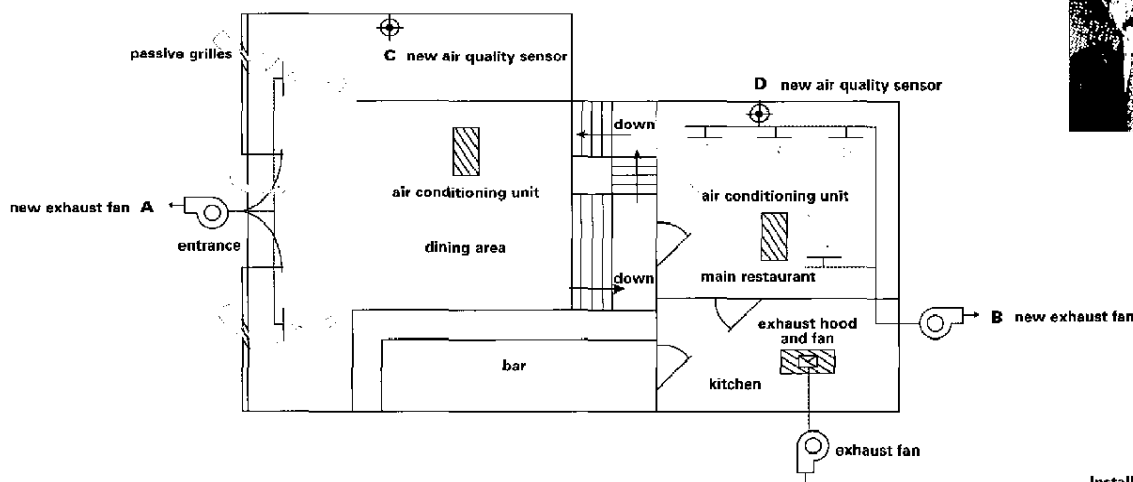
## Cafetería Restaurante Gernika – Bilbao, Spain

- First floor of a traditional building
- Area: 200 m<sup>2</sup>
- Two separate dining areas with large bar area
- Natural ventilation
- Two air conditioning units for supplemental cooling



*"Being a part of a prestigious program such as Traditional Hospitality excited me from the beginning. Gernika has been serving people from Bilbao for many years and we wanted to keep offering our clientele complementary quality ambient air."*

– Antonio Montero, Proprietor



### Actions

- Installed 5,500 m<sup>3</sup>/h exhaust fan **A**
- Installed 3,000 m<sup>3</sup>/h exhaust fan **B**
- Installed air quality sensor **C** to control exhaust fan **A**
- Installed air quality sensor **D** to control exhaust fan **B**

Installed by:  
Koxka Norte, S.A.

### Products:

- Extractor SOLER Y PALAU S&P 12/12 1.5 CV, S&P 10/10 3/4 CV
- Sensor SOLER Y PALAU SQA

PM3006558762

# Good Results

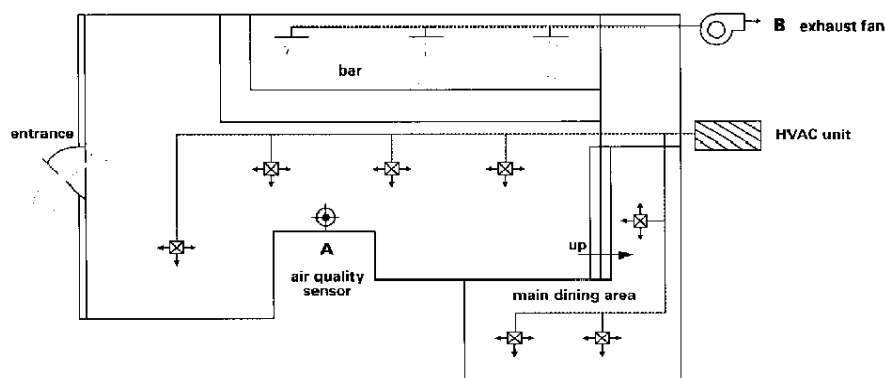
## Cervecería Mugarri – Bilbao, Spain

- First floor of a traditional building
- Area: 250 m<sup>2</sup>
- Two separate dining areas
- Existing HVAC and exhaust system



*"We recently inaugurated Mugarri, and therefore it already had a ventilation system which was more than acceptable. Some minor adjustments have allowed us to improve the weariness of our ventilation system and we have been able to adhere to Traditional Hospitality."*

— Antonio Montero, *Proprietor*



### Actions

- Installed air quality sensor **A** to control exhaust fan **B**

Installed by:  
Koxka Norte, S.A.

Product:  
• Sensor SOLER Y PALAU SQA

PM3006558763

# Good Results

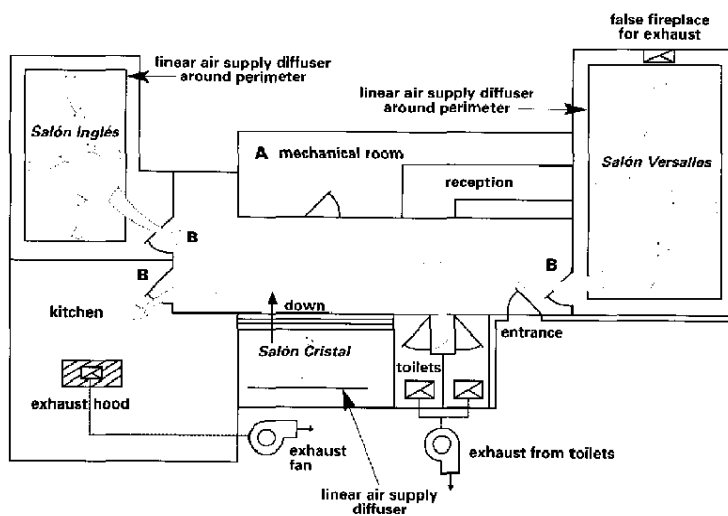
## Restaurante Zortzico – Bilbao, Spain

- First floor of a traditional building
- Area: 120 m<sup>2</sup>
- Three separate dining areas
- Large kitchen with exhaust hood
- Existing air conditioning and ventilation system



*"We like to please the customers, and for this reason we could not fail to think of the environment of our establishment. We want to be in the first rank and adequate ventilation undoubtedly contributes to this."*

– Daniel García, Proprietor



### Actions

- Opened outside air dampers for ventilation system **A**
- Installed better filters for ventilation system **A**
- Installed passive grilles **B** in doors to allow air transfer

Installed by:  
Mansaf

Product:  
• Air Conditioning Equipment  
Fläkt MARINAIR

PM3006558764

# Good Results

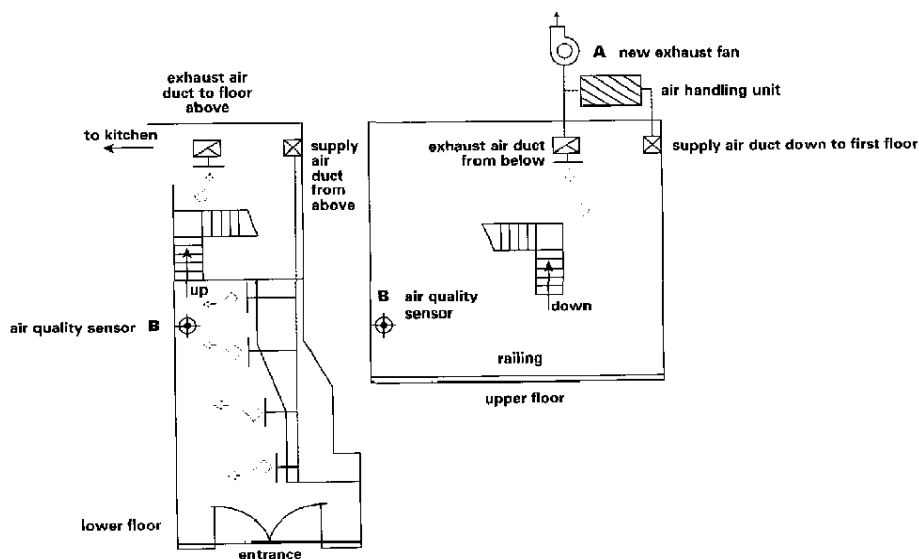
## Cafetería Restaurante Lepanto – Bilbao, Spain

- Two floors of traditional building
- Area: 80 m<sup>2</sup>
- Two separate lounge areas
- Large kitchen with exhaust hood
- Existing air conditioning and ventilation system



*"It never occurred to us that environmental quality was such a determining factor. The truth is that we are pleasantly surprised with the results that we are obtaining."*

– Miguel Ángel Muñoz, Proprietor



### Actions

- Installed 3.400 m<sup>3</sup>/h exhaust fan **A**
- Installed two air quality sensors **B** to control exhaust fan **A**

Installed by:  
Clima Norte S.L.

### Products:

- Extractor TECNIFAN TMD 10/10 3/4 CV
- Sensor SOLER Y PALAU SQA

PM3006558765

# Good Results

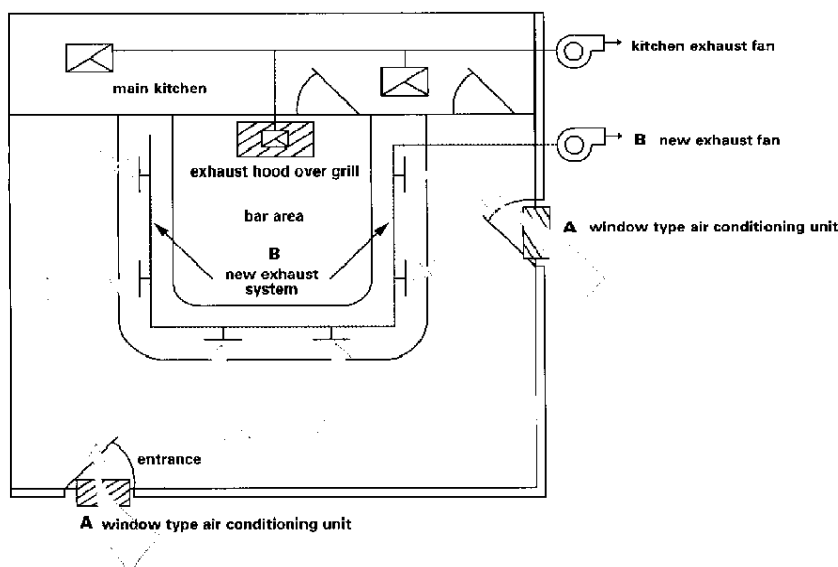
## Cafetería Florida – Bilbao, Spain

- First floor of a modern building in central Bilbao
- Area: 45 m<sup>2</sup>
- Two window-type air conditioning units above entrance doors
- Operable louvers above entrance doors
- Natural ventilation
- Exhaust system in kitchen area
- Exhaust hood over grill in bar area



*"We have noted a remarkable change. It is much more comfortable in the Coffee House now. During our busiest times, when it is impossible for another person to fit in, is when the change is most palpable. Stuffy air, smoke and odours seem to disappear in an instant."*

– Antonio Cuesta, Proprietor



### Actions

- Cleaned and disinfected existing window-type air conditioning units **A**
- Installed 1.500 m<sup>3</sup>/h exhaust system **B** above bar
- The new exhaust fan **B** is always on during business hours
- Opened outside air dampers on window-type air conditioning units **A**

Installed by:  
Climatizaciones Berotza

### Product:

- Extractor: **TECNIFAN TMD 7/7 0.5 CV**

PM3006558766

# Good Results

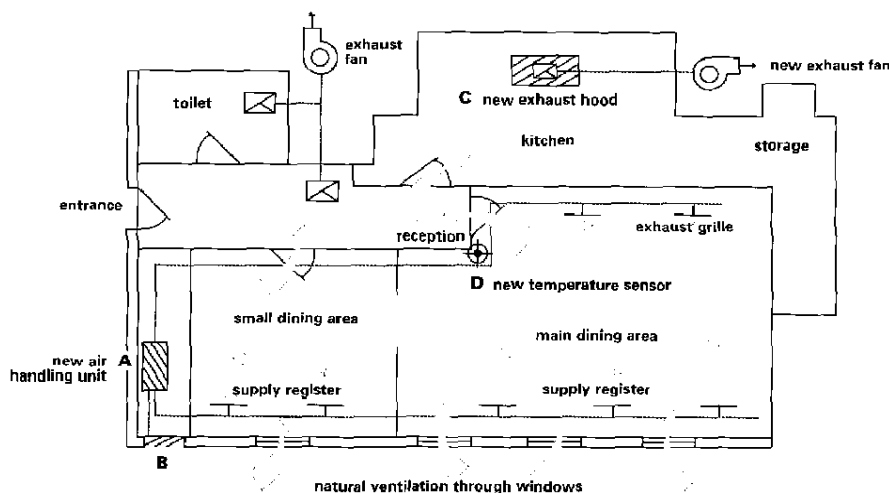
## Restaurante Víctor – Bilbao, Spain

- First floor of a traditional building in central Bilbao
- Area: 100 m<sup>2</sup>
- Two separate dining areas
- Old traditional coal kitchen with exhaust hood
- Existing air handling unit with 100% recirculated air
- Natural ventilation through windows during mild weather



*"One of our special characteristics, among others, is the treatment which we bestow upon everyone who visits us. We try to make them feel at home. This is the reason we decided to join Traditional Hospitality."*

– Adela Temiño, Proprietor



### Actions

- Replaced air handling unit **A** and opened up outside air dampers **B** to allow 2.000 m<sup>3</sup>/h of outside air
- Replaced exhaust hood **C** and fan in kitchen
- Installed temperature sensor **D** to control new air handling unit **A**

Installed by:  
Clima Norte S.L.

### Products:

- Extractor HITECSA TD 500/150
- Condenser HITECSA CCVB-701
- Evaporator HITECSA ECVB-701

PM3006558767

# Good Results

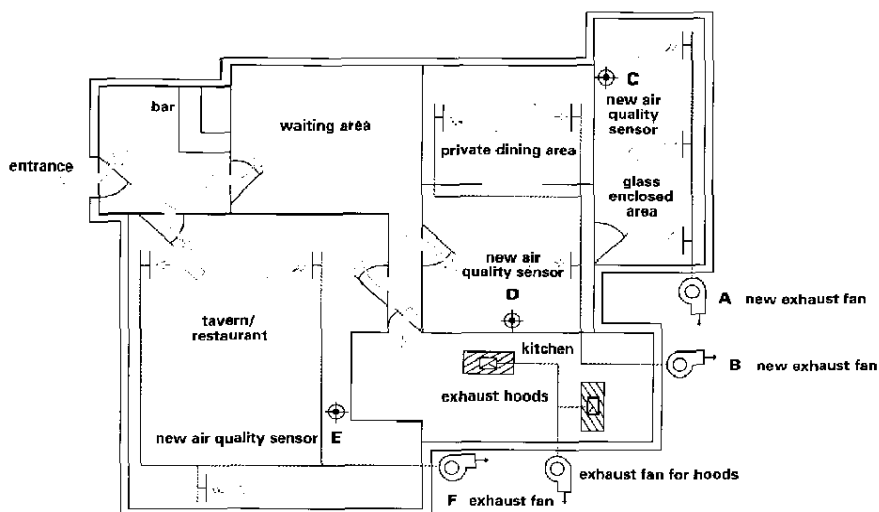
## Restaurante Jolastoki – Bilbao, Spain

- One-storey house
- Area: 238 m<sup>2</sup>
- Three dining areas – two indoor and one glass enclosed outdoor area
- Existing ventilation system



*"The location of the restaurant and its large windows made it unthinkable that we could improve the quality of the air. We have noted an obvious improvement and our regular customers ask us what we have done."*

– Begonia Beaskoetxea, Proprietor



### Actions

- Installed 1.300 m<sup>3</sup>/h exhaust fan **A**
- Installed 2.500 m<sup>3</sup>/h exhaust fan **B**
- Installed air quality sensor **C** to control new exhaust fan **A**
- Installed air quality sensor **D** to control new exhaust fan **B**
- Installed air quality sensor **E** to control exhaust fan **F**

Installed by:  
Clima Norte, S.L.

### Products:

- Extractor TECNIFAN  
TMD 9/8 1/3 CV  
TMD 10/10 1/3 CV
- Sensor SOLER Y PALAU SQA

PM3006558768



# Good Results

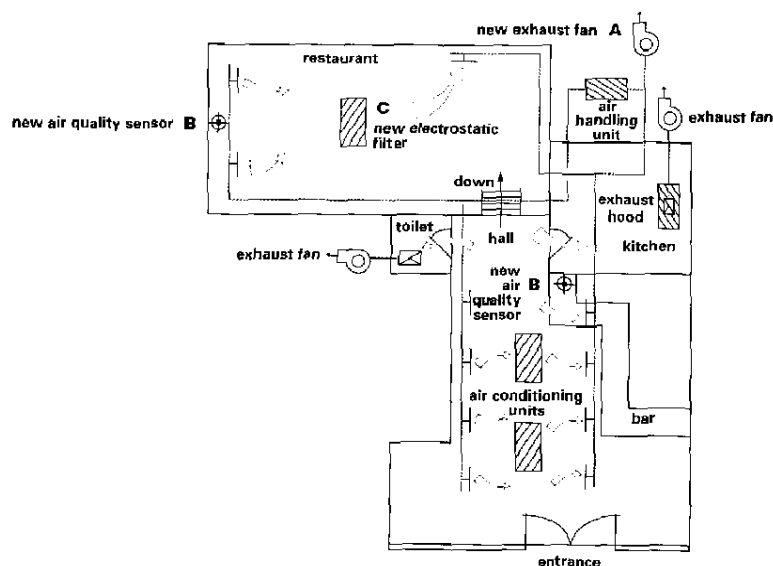
## Cafetería Restaurante Sarobe – Bilbao, Spain

- First floor of a traditional building
- Area: 158 m<sup>2</sup>
- Two separate dining areas
- Large kitchen with exhaust hood
- Existing air conditioning and ventilation system



*"The investment made was worth it. Our customers note that the air quality has improved. We, who spend many hours at work, feel the same thing every day."*

– Alpiniano Vacas, *Proprietor*



### Actions

- Installed 5.500 m<sup>3</sup>/h exhaust air fan **A**
- Installed two air quality sensors **B** to control exhaust fan **A**
- Installed electrostatic filter **C**

Installed by:  
Clima Norte S.L.

### Products:

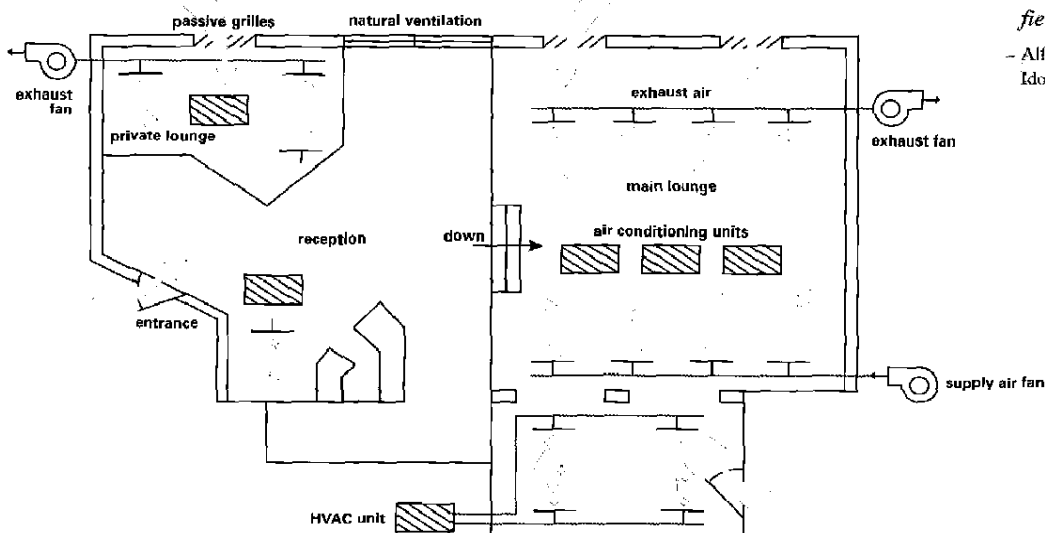
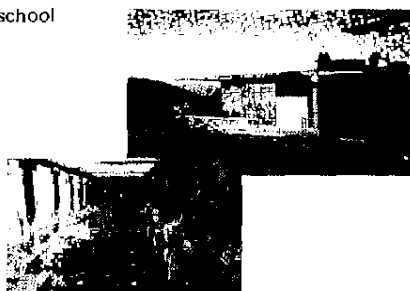
- Extractor TECNIFAN TMD 12/12 1.5 CV
- Sensor SOLER Y PALAU SQA
- Electrostatic Filter THERMO KING DSC-98

PM3006558769

# Good Results

## Restaurante La Escuela de Hostelería – Bilbao, Spain

- Public restaurant of the official restaurant business school
- Area: 152 m<sup>2</sup>
- Five cassette type air conditioning units
- Existing exhaust system with natural ventilation
- Natural ventilation



*"We strive to make the customer who fully enjoys his mid-day meal, feel more comfortable. We believe we did the right thing in participating in Traditional Hospitality, even more so if we consider the fact that professionals in the hotel industry are trained here. We think that it is positive for them to have knowledge in this field as well."*

– Alfredo García and  
Idoia Hormietxe, *Managers*



### Action

- Continuously operate ventilation system during business hours

Installed by:  
Reaba, S.L.

### Product:

- Air Conditioning  
Equipment FUJITSU A0625  
RWDL / A0114 AZAL

PM3006558770



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In cooperation with the International Hotel & Restaurant Association, the *Traditional Hospitality* programme is supported by Philip Morris Management Corp., an allied member of the IH&RA.

PM3006558771